

Dr. Ruth C(lifford) Engs - Presentations, Publications & Research Data Collection.

This collection is found at IUScholarWorks: <http://hdl.handle.net/2022/16829>

The Collection

This document is part of a collection that serves two purposes. First, it is a digital archive for a sampling of unpublished documents, presentations, questionnaires and limited publications resulting from over forty years of research. Second, it is a public archive for data on college student drinking patterns on the national and international level collected for over 20 years. Research topics by Dr. Engs have included the exploration of hypotheses concerning the determinants of behaviors such as student drinking patterns; models that have examine the etiology of cycles of prohibition and temperance movements, origins of western European drinking cultures (attitudes and behaviors concerning alcohol) from antiquity, eugenics, Progressive Era, and other social reform movements with moral overtones-Clean Living Movements; biographies of health and social reformers including Upton Sinclair; and oral histories of elderly monks.

Citation for this item

To obtain citation format and information for this document go to: <http://hdl.handle.net/2022/17298>

Indiana University Archives

Paper manuscripts and material for Dr. Engs can be found in the IUArchives

http://webapp1.dlib.indiana.edu/findingaids/view?doc.view=entire_text&docId=InU-Ar-VAC0859

RELATIONSHIP BETWEEN CO-DEPENDENCY AND DRINKING PROBLEMS: A NEGATIVE RESULT

Ruth C. Engs, R.N., ED.D.

*Department of Applied Health Science, HPER Building (Room 116) Indiana University, Bloomington,
Indiana 47405*

Paper Presented: *American Alliance for Health, Physical Education, and Recreation*,
Boston, MA, April 23, 1989.

Digitalized for IU ScholarWorks Jan 2014. Retrieved from IU ScholarWorks repository:
<http://hdl.handle.net/2022/17298>

ABSTRACT

The purpose of this study was to determine the possible association between “Co-dependent” (*defined as having a parent or grandparent who sometimes or often drank too much*) and “Non-Co-dependent” students and the mean amount of alcohol consumed per week for possible alcohol awareness and intervention programs. A purpose was to examine the differences between these two groups and alcohol consumption patterns. The data were collected using THE CODE Questionnaire that measures co-dependency status. The Student alcohol Questionnaire was used to measure self-reported alcohol consumption. For this cross-sectional study, a quota sample of 971 college students from all four regions of the United States was selected. The results revealed no association between those with high or low Co-dependency scores and the mean amount of alcohol consumed per week for the total sample ($r=.007$), or for men ($r=.04$) or women ($r=.02$). A t test and chi-square analysis found no significant difference between those with high or low Co-dependent scores in regards the mean amount of alcohol consumed or drinking patterns. The results showed remarkable similarity in alcohol consumption and drinking patterns between both groups of students. This is an interesting finding inasmuch as popular literature and alcoholism treatment personnel consider individuals who come from problem drinking families are more likely to have drinking problems. It was concluded that scoring high on the Co-dependency scale was not associated with either light or heavy alcohol consumption among this national sample of college students.

BACKGROUND

Evidence that alcoholism is a genetically influenced condition has been found (Goodwin, 1985; Schucit, 1985). Also, there is evidence suggesting that individuals who are “adult children of alcoholics” have a higher probability of becoming alcoholic or problem drinkers as a result of their unstable childhood family systems. This dysfunctional environment is thought to foster an 'either/or' personality trait that would cause a person to be either a heavy drinker or to be an abstainer or very light drinker, compared to individuals from nonalcoholic backgrounds (Weigscheider-Cruse, 1985). It is implied that individuals from these backgrounds are more

likely to experience alcohol abuse, other addictions or mental health problems compared to other individuals (Cotton, 1979; Roosa et al., 1988).

Over the past decade, it has been debated if co-dependency is a separate condition, syndrome or disease resulting from being brought up in a dysfunctional or problem drinking family. Also debated has been the definition of co-dependency. Some definitions describe it as self-sacrificing for another person to the point of enabling them in their addictive behavior. Other definitions regard it as being raised in a dysfunctional family. Most family environments probably have some level of dysfunction, whether or not there is a problem drinking within the family. Thus, most people (and students) likely exhibit some co-dependency symptoms. A basic assumption is that with increased co-dependency symptoms come increased emotional or addictive behavior problems.

Many studies examining co-dependency use detailed histories or long surveys asking people directly if their parent was an alcoholic which some individuals are hesitant to reveal. To avoid this potential error, the instrument used for this study, the CODE, developed by Ruth C. Engs at Indiana University and David Anderson of George Mason University (Engs and Anderson, 1988) avoids asking if a family member is alcoholic. This eleven item questionnaire indirectly identifies a family history of alcohol abuse. For this instrument, the higher the score the more problems and negative feelings the individuals indicated they experienced in their family environment and the higher the probability that they are co-dependent defined as "having a parent or grandparent who often or sometimes drank too much."

Approximately 20% of college students can be classified as "at risk" or "heavy drinkers" [sometimes called "binge drinkers"] and exhibit problems related to alcohol abuse. Engs and Hanson's (1988) most recent study indicated that over 80% of students drink, and that one in five is a heavy drinker. Because of the increasing awareness of alcohol abuse among college students, 4-year institutions of higher learning are addressing these problems (Anderson and Gadeleto, 1984). A family background for problem drinking and its relationship to alcohol abuse among students would be of interest as a possible adjunct to solving campus alcohol problems. If there is an association between problematic drinking and problem drinking in a student's family, this information may help in program planning, education and counseling for university students.

A few studies have compared quantity-frequency patterns and alcohol-related problems between young males with self-reported familial alcoholism compared to those with non-alcoholic backgrounds (Schuckit and Sweeney, 1987). However, there appears to be a lack of research that explores the possible association between drinking patterns and familial alcohol abuse that is collected by methods other than by gathering a detailed history or by a questionnaire that directly asks if a parent is or was an alcoholic. Thus, the purpose of this study was to determine the possible association between familial alcohol abuse and the amount of alcohol consumed per week, and also to determine whether differences exist between those students from alcohol abusing families compared to non-abusing with a survey instrument that indirectly identifies alcohol abuse.

The null hypotheses for this cross-sectional study design were:

(1) there is no significant association between family background status and drinking patterns, and (2) there is no significant difference between students with positive or negative background in relation to possible problem drinking.

METHOD

Instruments

The *Student Alcohol Questionnaire* (SAQ) (Engs, 1975), which has been utilized by hundreds of researchers investigating college students' drinking patterns over the past 15 years, was used. It has demonstrated an internal consistency reliability of 0.79 and includes demographic items, questions regarding the quantity and frequency of consumption of various alcoholic beverages and 17 items concerning possible negative consequences of drinking.

Calculations to determine mean number of drinks per week consumed by each students were based on a method devised by Room (1985) and Lemmens et al. (1988). The mean number of drinks of beer, wine or spirits were multiplied by the frequency with which each beverage was consumed. These numbers were then summed to find the total mean number of drinks consumed per week. Loading values for usual frequency of drinking by each respondent: every day = 7.0; at least once a week but not daily = 3.5; at least once a month but not weekly = .5; more than once a year but not monthly = .12; once a year or less .02; never = 0. Values for number of drinks of beer, wine, spirits: 6+ = 7.5; 5-6 = 5.5; 3-4 = 3.5; 1-2 = 1.5; <1.0 = .5; 0 = 0. A limitation to this study is that under-or overestimation of mean weekly drinks could have occurred for some individuals.

Using this method, individuals who consume less than 1 drink per week are considered *abstainers*. Those consuming between 1 and 7 drinks are *light drinkers*; 8 to 14, *moderate*; 15 to 21, *moderate/heavy*; 22 to 28, *heavy*; and those consuming 29 or more drinks per week are considered very heavy or *at-risk* drinkers.

The *CODE* questionnaire (Engs and Anderson, 1988) was used to determine a 'co-dependency' or having a parent or grandparent who sometimes drank too much score for each student. The development and characteristics of the instrument are briefly described as follows: A literature search was, first, carried out to determine characteristics of individuals from families with a history of problem drinking or alcoholism. For this search 68 items dealing with conflict between family members, emotional abuse, current and past negative feelings, current or past addictive behaviors and problems in the childhood environment were found.

These items were assembled into a questionnaire along with demographic and familial alcohol consumption information. For each of these items, other than demographic data, a 4-point Likert scale for which subjects indicated "never," "rarely," "sometimes" or "often" was used. Subjects were classified as being "co-dependent," if they indicated that either a parent or grandparent "sometimes" or "often" drank too much. It should be noted that subjects were not asked if they thought a relative was alcoholic to avoid possible invalid answers. This instrument does not

indicate a family history of alcoholism as classified by DSM-III, but gives a co-dependency score for possible family problem drinking if the subjects thought that a parent or grandparent sometimes or often drank too much. Individuals who reported that parents or grandparents had “rarely” or “never” drank too much were classified as Non-Codependent. Subjects who had siblings or aunts and uncles who were identified as sometimes or often drinking too much, without parental or grandparental heavy drinking, were eliminated from the validity and cross-validity analysis.

The instrument with the 68 items, plus familial drinking patterns and demographic questions, was given to 381 students in residential units at four universities including one from the South, East, Midwest and North-Central regions of the United States. The SPSS-X (Statistical Package for the Social Sciences, 1986) was utilized to calculate the various statistical procedures used in this study.

Item reliability using the Pearson correlation coefficient between each item and co-dependency status was performed. A *t* test was accomplished between those with high and low co-dependency scores for each item. Test-Retest Reliability over time was determined for each item with 84 students in an undergraduate class that had students from every major and class year. Eleven items remained after elimination of the others due to non-significant *t* test or correlation coefficient less than .3.

Construct validity and internal consistency tests were performed. A factor analysis identified one factor. The Cronbach alpha test for homogeneity resulted in an alpha of .89 and Spearman-Brown split-half technique revealed the reliability coefficient of the questionnaire to be .87.

After these procedures the predictability of the instrument to correctly co-dependency status was calculated. Discriminate analysis revealed that the 11 items correctly classified individuals as positive 69% of the time, and negative, in terms of co-dependency, 78% of the time with a total of 71% of all individuals being classified correctly.

Next, cross-validation procedures for the instrument were accomplished. The instrument was administered to 614 students at 12 universities located around the nation. Since the original procedures indicated a significant difference between male and female students, separate calculations were accomplished for the total group and each gender. For the total group, item analysis revealed that each item had a reliability coefficient of .2 or above. The Spearman-Brown test indicated a reliability of .76 and Cronbach alpha measure indicated a highly significant alpha of .88. Discriminate analysis indicated that 74% of students were correctly classified. The results for each gender were similar.

In order to categorize individuals as either having high or low codependency scores for research purposes, the CODE authors recommend selecting students whose scores fall one standard deviation above or below the mean. This procedure was used for this study. The final questionnaire contains 11 items. The student was instructed to answer degree of agreement with each item on a Likert scale ranging from 1 to 4. The answers for all 11 items are then summed to obtain a mean score for each subject. Scores range from a minimum of 11 to a maximum of 44 points.

Sample

For this study, a subsample of universities from a larger U.S. database, which has been collected every three years since 1982 for an ongoing study of drinking patterns and problems of students attending 4-year institutions of higher learning in every state, was collected (Engs and Hanson, 1985, 1988). For this long term study, 81 colleges and universities were initially selected as a quota sample to represent the types of 4-year colleges and universities in terms of financial support, number of students enrolled, size of the community and representativeness of the percent of institutions found in the four geographic regions as defined by the NIAAA (1975). Institutions were also selected to reflect the universe of students who attend universities in terms of the demographic characteristics of gender, race and year in school.

To obtain a subsample for this current report, it was determined that a sample of approximately 1,000 students would provide sufficient power (0.80) to detect significant differences ($p < .05$) (Cohen, 1988). To obtain this sample, sociology or health education faculty members were contacted at 21 (26%) of the total pool of 81 colleges, and asked to administer, in addition to the SAQ, the CODE questionnaire during the 1987-88 academic year. These 21 schools were chosen at random. Each instructor was asked to administer up to 75 questionnaires in a general elective class in which students from all class levels and majors were likely to be enrolled.

Of these 21 schools, 15 returned completed questionnaires (71%) with a resulting sample of 981 students. These students exhibited the following demographic characteristics: *type of school*: public (88%), private (12%); *region of country*: Northeast (22%), North Central (29%), South (23%), West (26%); *enrollment*: fewer than 10,000 (65%), greater than 10,000 (35%); *gender*: male (43%), female (57%); *race*: white (87%), black (13%); *college year*: freshman (31%), sophomore (27%), junior (22%), senior (20%). The mean age of the sample was 20.7 years (freshmen, 18.6; sophomores, 20.0; juniors, 21.6; seniors, 23.2). Compared to statistics published by the department of Education (Snyder, 1987), a slight over representation of women was found.

RESULTS

The results revealed a significant difference ($p < .05$) in co-dependency scores due to gender (men, 21.6; women, 22.6), and race (whites, 22.2; blacks, 20.5). Because of these differences, separate analysis were accomplished for men and women as suggested by the authors of the CODE. However, since the number of black students was only 10% of the sample, which could have affected the reliability of these results, no further analysis was accomplished with this demographic variable.

No significant difference was found between class year in terms of co-dependency scores. Furthermore, within each class year there was no significant difference between these scores and the number of drinks consumed per week. Based upon these analyses, it was concluded that class year was not an important variable in terms of co-dependency status and no further analysis was carried out for this variable.

After initial means and standard deviations were calculated, outliers (mean + 3 SD) were eliminated from subsequent analyses. This resulted in 11 individuals being eliminated with a resulting sample of 970 students comprised of 415 men and 555 women.

The results of a Pearson correlation coefficient between high and low co-dependency score (mean +-SD) (22.0 +- 6) and mean number of drinks consumed per week (11.4 +- 13.3) demonstrated no association ($r = 0.007$) for the sample as a whole. Most importantly, there was no association ($r = 0.04$) between co-dependency scores (21.6 +- 6) and number of drinks consumed among male students (16.3 +- 17.3), or co-dependency score (22.6 +- 6) and drinking (8.2 +- 10.3) among female students ($r = 0.02$).

This lack of association between co-dependency score and alcohol consumption could occur because of a true lack of association between the two variables or if the curve is a non-normal or bimodal distribution because students were either heavy or non-drinkers to light drinkers. Further analyses were conducted to determine characteristics of the curve representing mean amount of alcohol consumed per week.

An inspection for skewness, kurtosis and variance did show that the curve for the number of drinks consumed per week departed slightly from normal. The curve for the total group and for the men and women were all positively skewed ($p < .05$). In addition, the Komologrov-Smirnoff test for normalcy indicated that the curves varied ($p < .05$) from the normal curve (see Table 1).

To rule out possible differences in drinking patterns between students with high or low co-dependency scores, a t test between the mean number of drinks consumed per week was conducted. In addition, the levels of drinking between high and low co-dependency score students were examined by chi-square analysis. ***No significant difference was found between high or low co-dependency score for the total group and for the men and women for either the t -test or the chi-square analysis*** (see Table 2).

Since the results of this study were based on non-significant correlations between co-dependency scores and alcohol consumption, it was determined that a post-hoc power analysis was warranted to determine whether the non-significant differences were the result of a lack of power. It was determined that power for this investigation was at the 85% level (Cohen, 1988) which corresponds with the previous estimate.

DISCUSSION

The results demonstrate a lack of association between high (parents or grandparents who sometimes or often drank too much) and low co-dependency scores among this sample of college students and the amount of alcohol consumed. In addition, the results show a remarkable similarity in alcohol consumption patterns between the two groups. No matter what the student's family background in terms of drinking, approximately a third consumed less than one drink per week (Table 2). An additional third were considered to be light to moderate drinkers consuming from 1 to 7 drinks on a weekly basis.

Of the total sample, approximately 10% were at-risk drinkers consuming 29 or more drinks per week. An additional 20% were moderate-heavy to heavy drinkers consuming between 15 and 28 drinks per week. Thus, the results appear to support the null hypotheses for this study that there would be no association between those with high and low co-dependency scores and alcohol consumption and no difference in co-dependency status in terms of alcohol consumption. It was concluded that having parents or grandparents with possible alcohol abuse or alcoholism was not associated with either light or heavy alcohol consumption among this sample of students.

This study appears to support Schuckit and Sweeney's (1987) report that also found no difference in drinking patterns between male college students and staff members, with and without familial alcoholism, at one university. It is speculated that college students generally drink for such reasons as peer pressure, rite of passage, reactance, and rebellion against authority rather than for emotional or addictive reasons related to familial alcoholism at this point in their psychosocial development.

REFERENCES

- Allen, M.J. and Yen, W.M. Introduction to Measurement Theory, Monterey, Calif.: Brooks/Cole Publishing Co., 1979.
- Anderson, D. and Gadaletto, A.F. Progress or illusion: The 1979 and 1982 college alcohol surveys. *J. Coll. Stud. Personnel* **25**: 332-337, 1984.
- Cohen, J. Statistical Power Analysis for the Behavioral Sciences, 2d edition, Hillsdale, N.J.: Lawrence Erlbaum Assocs., Inc., 1988.
- Cotton, N.S. The familial incidence of alcoholism: A review. *J. Stud. Alcohol* **40**: 89-116, 1979.
- Engs, R.C. The Student Alcohol Questionnaire, Bloomington, In., 1975.
<http://hdl.handle.net/2022/17153>
- Engs, R.C. and Anderson, D.J. *The CODE Manual*, Campus Alcohol Consultations: Washington, D.C., 1988. <https://scholarworks.iu.edu/dspace/handle/2022/17138>
- Engs, R.C. and Anderson, D.J. *The CODE Questionnaire*. 1988. Located at :
<http://hdl.handle.net/2022/17248>
- Engs, R.C. and Hanson, D.J. The drinking patterns and problems of college students: 1983. *J. alcohol Drug Educ.* **31**(1): 65-83, 1985.
- Engs, R.C. and Hanson, D.J. University students' drinking patterns and problems: Examining the effects of raising the purchase age. *Publ. Hlth Rep.* **103**: 667-673, 1988.
- Goodwin, D.W. Alcoholism and genetics: The sins of the fathers, *Arch. gen. Psychiat.* **42**: 171-174, 1985.

Lemmens, P., Tan, E.S. and Knibbe, R. Comparison of Indices of Alcohol Consumption: Issues of Validity of Self Reports. Paper presented at the fourteenth annual Alcohol Epidemiology Symposium, Berkeley, June 5-11, 1988.

NIAAA, NIAAA geographic definitions. NIAAA Inform. Feature Serv. No. 10, p. 1, 1975.

Room, R. Measuring Alcohol Consumption in the U.S.: Methods and Rationales. Paper presented at the Alcohol Epidemiology Section Meeting of the Thirty-First International Institute on the Prevention and Treatment of Alcohol Problems, Rome, Italy, June 2-7, 1985, 1985.

Roosa, M.W., Sandler, I.N., Gehering, M., beals, J. and Cappel, L. The children of alcoholics life-event schedule: A stress scale for children of alcohol-abusing parents. *J. Stud. Alcohol* **49**: 422-429, 1988.

Schuckit, M.A. Genetics and the risk for alcoholism. *JAMA* **254**: 2614-2617, 1985.

Schuckit, M.A. and Sweeney, S. Substance use and mental health problems among sons of alcoholics and controls. *J. Stud. Alcohol* **48**:528-534, 1987.

Snyder, T.D. Digest of Education Statistics 1987, Department of Education: Washington D.C., 1987.

Statistical Package for the Social Sciences [SPSS-X] Users' Guide, 2d Edition, New York: McGraw-Hill Book Co., 1986.

Wegscheider-Cruse, S. Choice Making for Co-Dependents, Adult Children and Spirituality Seekers, Deerfield Beach, Fla.: Health Communications, Inc., 1985.

Table 1: Curve Analyses for number of drinks consumed per week

	Mean	SD	Variance	Skewness	Kurtosis	Percentile			K-S
						25 th	Median	75 th	
Total (n= 970)	11.4	13.3	176.5	1.2	.86	0.4	5.3	20.0	6.1*
Males (n= 415)	16.3	16.4	271.0	1.0	.75	0.1	13.1	27.0	3.3*
Females (n= 545)	8.2	10.3	107.1	1.2	.85	0.3	2.5	14.2	5.4*

* p <.001

Table 2: Comparison of students with high and low co-dependency scores using *t* test for mean number of drinks and chi-square for percent of students consuming different numbers of drinks per week. (Note: no significant differences were found)

	N	Mean	SD	t	Abs tain er (<1)	Light (1-7)	Moderate (8-14)	Mod./ heavy (15- 21)	Heavy (22- 28)	At risk (>28)
Total sample										
CoDep	155	10.1	11.8	1.2	34	25	12	10	10	9
Non-CoDep	175	10.1	12.7		40	21	9	9	9	9
Male										
CoDep	68	13.4	13.5	1.6	33	15	7	15	16	13
Non-Codep	64	15.2	17.4		36	13	9	8	9	25
Female										
Codep	86	7.6	9.8	1.6	35	33	15	7	6	4
Non-Codep	110	7.6	10.0		42	25	9	10	8	6

I would like to thank David Anderson and David Hanson for sample collection and suggestions concerning this report. Appreciation is also given to David Kocaja and Janet Wigglesworth for statistical and computing suggestions, and to Anne-Marie Jen for data entry.